

# Role DATA - All Variants (CentOS8/Win2019)

## Common Installation Tasks

These tasks are performed on all DB servers, no matter what role (master or slave) they are to perform.

## Attach STORE

First of all, the STORE is connected to the machine, as described here: [Mounting STORE - All Linux except for STORE \(CentOS8/Win2019\)](#)

## Install MySQL

### Configure Repositories and Install mysql-community-server

CentOS 8.x comes with some default repositories, which we do not want. These are disabled, and the MySQL repository is installed. Then the MySQL Server is installed.

```
# Make sure liibaio is on
dnf -y install liibaio

# Disable some default stuff
dnf config-manager --disable mysql-connectors-community
dnf config-manager --disable mysql-tools-community
dnf -y module disable mysql

# Install the Oracle MySQL repo and the client
dnf -y install https://dev.mysql.com/get/mysql80-community-release-el8-1.noarch.rpm
dnf -y install mysql-community-server
```

### Start MySQL

Next, the MySQL server is configured to autostart on boot, and started up:

```
systemctl enable mysqld.service
systemctl start mysqld.service
```

### Configure Firewall

Access to the MySQL Server is configured in the firewall:

```
firewall-cmd --zone=public --add-port=3306/tcp --permanent
firewall-cmd --reload
```

# Configure MySQL

## Configuration Files

MySQL 8.x creates a configuration directory **/etc/my.cnf.d** when it installs. The jtel configuration files are stored here, but a reference must be added to this directory so that mysql loads the configuration files.

This is added with the following command:

```
cat <<EOFF >> /etc/my.cnf
#
# * IMPORTANT: Additional settings that can override those from this file!
# The files must end with '.cnf', otherwise they'll be ignored.
#
!includedir /etc/my.cnf.d/
EOFF
```

The next command downloads the main configuration file for the mysql server. This file contains a lot of well commented settings which can be tweaked if required. The main parameter to be changed is the RAM usage of the sever. See below.

```
wget -P /etc/my.cnf.d http://cdn.jtel.de/downloads/configs/jtel-enhanced-8.cnf
```

## Restart Server

Now, the MySQL must be restarted:

```
systemctl restart mysqld.service
```

## Configure Users

After the first restart, user access must be setup.

MySQL 8.x saves a generated random password for the root user in the file **/var/log/mysqld.log**

**This password must be extracted. Often, it contains special characters which cannot be input on the command line within a script. For the following command the password is input manually. Note, that <password> refers to the NEW password you want to assign to the root account.**

CAUTION PASSWORD

```
mysqladmin -u root -p password '<password>'
```

The following commands configure the further users required:

#### CAUTION PASSWORD

```
mysql -u root -p<password> -v -e"CREATE USER 'root'@'%' IDENTIFIED WITH mysql_native_password BY '<password>'"
mysql -u root -p<password> -v -e"GRANT ALL ON *.* TO 'root'@'%' WITH GRANT OPTION"
mysql -u root -p<password> -v -e"FLUSH PRIVILEGES"
```

## Install UDP Plugin

Next, the UDP plugin is installed. This is required for the communication with further software modules in the system, when certain DB changes are made.

The installation is slightly different for master and slave servers.

### Installation

#### Master Server

```
cp /home/jtel/shared/JTELCarrierPortal/Libraries/jtel_udf_udpsend/jtel_udf_udpsend.so /usr/lib64/mysql/plugin/
chown root:root /usr/lib64/mysql/plugin/jtel_udf_udpsend.so
chmod 755 /usr/lib64/mysql/plugin/jtel_udf_udpsend.so
chcon system_u:object_r:lib_t:s0 /usr/lib64/mysql/plugin/jtel_udf_udpsend.so
```

#### Slave Server

```
cp /home/jtel/shared/JTELCarrierPortal/Libraries/jtel_udf_udpsend/dummy/jtel_udf_udpsend.so /usr/lib64/mysql/plugin/
chown root:root /usr/lib64/mysql/plugin/jtel_udf_udpsend.so
chmod 755 /usr/lib64/mysql/plugin/jtel_udf_udpsend.so
chcon system_u:object_r:lib_t:s0 /usr/lib64/mysql/plugin/jtel_udf_udpsend.so
```

## Configuration

To configure the plugin, the following commands are executed:

#### CAUTION PASSWORD

```
mysql -u root -p<password> -v -e"DROP FUNCTION IF EXISTS udpsend"
mysql -u root -p<password> -v -e"CREATE FUNCTION udpsend RETURNS STRING SONAME 'jtel_udf_udpsend.so'"
```

#### Important



The configuration of the UDP plugin must be performed before the server is included in any replication between servers, otherwise replication will fail. The UDP plugin must be installed on all servers.

# Configure Server RAM

In order that the server makes the best use of the RAM available, the configuration file **/etc/my.cnf.d/jtel-enhanced-8.cnf** must be adapted.

The setting **innodb\_buffer\_pool\_size** should be adapted to about 3/4 of the available RAM, but a minimum of 3-4 GB should remain for the use of other processes. For Servers with 4 GB RAM, this should not exceed 2 GB.

```
# For 4 GB RAM
innodb_buffer_pool_size = 2048M

# For 8 GB RAM
innodb_buffer_pool_size = 5120M

# For 12 GB RAM
innodb_buffer_pool_size = 8192M

# For 16 GB RAM
innodb_buffer_pool_size = 12288M

...
# From 16 GB simply take 3/4 of the RAM
```

## Restart MySQL

Finally, the MySQL server is restarted for the last time, to load all configuration settings.

### Restart the MySQL server

```
systemctl restart mysqld.service
```